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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/694,074	10/20/2000	Rebecca J. Jackman	H0498/7085 TJO	2002

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Timothy J. Oyer
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Boston, MA 02210

EXAMINER

PARKER, FREDERICK JOHN

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 06/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/694,074

Applicant(s)

JACKMAN ET AL.

Examiner

Frederick J. Parker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-62 and 92-104 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 51-62 and 92-100 is/are rejected.
- 7) ☒ Claim(s) 101-104 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/15/06

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Applicants are now claiming their method for applying a “biological agent” which should appear in the title since it is an important aspect of the claims.

Claim Objections

2. Claims 52,53 are objected to because of the following informalities: “the” should be inserted before “biological” for clarity. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 51-52 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Xia et al. (1996)

The article teaches on pp 1566-1567 to form free-standing polymeric masks which are applied to surfaces, including curved, in conformal contact, forming masked and unmasked pattern portions of a surface, and then applying an agent (exemplified as gold) within the unmasked

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pattern areas which are sub millimeter in scale (fig. 12). It is apparent no degradation occurs.

While gold is not cited as a biological agent, it is the Examiner's position that any element is a biological agent since it may interact with biological species, either as an irritant, allergen, or in the case of gold materials as a medicament for at least arthritis.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 53-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rustomji in view of Smith US 4119745 and further in view of Allinikov US 4097776.

Rustomji teaches a method for forming thin-film EL panels comprising masking a surface with a thin flexible steel mask, the mask having open (second portions) and reinforcing portions (first portions) including 7-10 mil features (col. 3, 31-34) which are "less than 1 mm", the openings defining electrodes; holding the mask flush and magnetically adhered to the substrate ("conformal contact"); and depositing metal vapor through openings to form the electrodes for an EL device. No degradation of the mask is cited, not can any occur without departing from the spirit and intent of the reference. Rustomji further discloses the method comprises after first film deposition, shifting and re-orienting the mask relative to the metal deposition, to a second position where a second deposition is made holding the mask to the substrate, such that portions of the substrate previously covered are now coated, per claim 53 and 55. The first portion is unshielded per claim 54. Rustomji teaches forming metal electrodes by vapor deposition without limitation as to number of coating agents applied to form the electrodes. Since electrodes are

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commonly formed of plural conductive materials, dependant on their intended function, it is the Examiner's position that the use of plural coating agents applied on a substrate would have been within the purview of one skilled in the art, per claim 62. Use of a polymeric masking system is not taught.

Smith et al teaches a method for forming EL display devices in which electrodes are deposited using shadow mask patterning means having apertures through which electrode material is deposited using first and second superimposed masks (per claim 56-57), to form perpendicular patterns as shown in figure 1. Thus, Rustomji and Smith et al relate to the same subject matter, namely forming electrodes on substrates by deposition through masking means. While Rustomji is directed to flexible metal masks, col. 3, 24-43 of Smith et al teaches the use of masks "of any suitable material" including of polymer resin (e.g. polyvinyl chloride, & encompassing an elastomeric polymer, per claim 59) masking materials as suitable, so that the use of any one would have been expected to provide equivalent outcomes. Both flexible metals and polymers would have made conformal contact with substrate surfaces because of their pliability/flexibility, including substrates which are non-planar.

Smith discloses forming electrodes for EL devices in which first and second overlaying masks are adhesively secured to a substrate ("conformal contact"), the first mask disposed against the substrate. The masks are disposed so mask apertures are aligned, and depositing coating material through the apertures. Masks may be plastic/ polymeric. Removal of the top mask, followed by forming an additional electrode is further disclosed per claim 60. Removing and replacing sets of masks to form electrode patterns across a surface, per claim 61, would have been an obvious

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variation within the purview of the skilled artisan in view of the combination of references, particularly the shifting and reorientation of masks as taught by Rustomji.

A biological agent applied after re-placing the mask is not disclosed.

Allinikov teaches forming EL devices, including the formation of electrodes by vapor deposition of a metal such as oxides or salts of cadmium, indium, etc. See col. 5, 11-15. Thus, Allinikov teaches alternate electrode materials which would be applied to form EL devices using vapor means, and it would have been obvious to apply such metals in vapor form using the method of Rustomji in view of Smith to provide the benefits of forming complex electrode patterns on EL devices.

The Examiner takes Official Notice that at least cadmium oxide is a biological agent as broadly used by Applicants because cadmium oxide is inherently a poison, carcinogen, and causes lung and kidney damage, hence its deleterious effects make it a “biological agent”. Supporting MSDS is cited. Applicants claim 53 fails to define the nature of the biological agent (e.g. organic, inorganic, function of agent, etc) so that the materials of Allinikov simply read on the limitation.

5. Claims 92-100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rustomji US 4511599 in view of Smith US 4119745. Rustomji teaches a method for forming thin-film EL panels comprising masking a surface with a thin flexible steel mask, the mask having open (second portions) and reinforcing portions (first portions) including 7-10 mil features (col. 3, 31-34) which are “less than 1 mm”, the openings defining electrodes; holding the mask flush and magnetically adhered to the substrate (“conformal contact”); and depositing metal vapor (“an agent” given the conventional meaning of “a force or substance that causes change” (Webster’s

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Collegiate Dictionary, 1994) since the metal vapor causes a change by forming a selective coating, as well as Applicants' own definition on Spec. page 16, 20-21) through openings to form the electrodes for an EL device. No degradation of the mask is cited, not can any occur without departing from the spirit and intent of the reference. Rustomji further discloses the method comprises after first film deposition, shifting and re-orienting the mask relative to the metal deposition, to a second position where a second deposition is made holding the mask to the substrate, such that portions of the substrate previously covered are now coated. The first portion is unshielded. Rustomji teaches forming metal electrodes by vapor deposition without limitation as to number of coating agents applied to form the electrodes. Since electrodes are commonly formed of plural conductive materials, dependant on their intended function, it is the Examiner's position that the use of plural coating agents applied on a substrate would have been within the purview of one skilled in the art, per claim 100. Use of a polymeric masking system and moving masks are not taught.

Smith et al teaches a method for forming EL display devices in which electrodes are deposited using shadow mask patterning means having apertures through which electrode material is deposited using first and second superimposed masks (per claims 92-95), to form perpendicular patterns as shown in figure 1. Thus, Rustomji and Smith et al relate to the same subject matter, namely forming electrodes on substrates by deposition through masking means. While Rustomji is directed to flexible metal masks, col. 3, 24-43 of Smith et al teaches the use of masks "of any suitable material", explicitly including of plastics/ polymer resin (e.g. polyvinyl chloride, & encompassing an elastomeric polymer, per claim 97) masking materials as suitable, so that the use of any one would have been expected to provide equivalent outcomes. Both flexible metals

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and polymers would have made conformal contact with substrate surfaces because of their pliability/ flexibility, including substrates which are non-planar.

Smith discloses forming electrodes for EL devices in which first and second overlaying masks are adhesively secured to a substrate (“conformal contact”), the first mask disposed against the substrate. The masks are disposed so mask apertures are aligned, and depositing coating material through the apertures. Masks may be plastic/ polymeric. Removal of the top mask, followed by forming an additional electrode is further disclosed per claim 98. Removing and replacing sets of masks to form electrode patterns across a surface, per claim 99, would have been an obvious variation within the purview of the skilled artisan in view of the combination of references, particularly the shifting and reorientation of masks as taught by Rustomji.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rustomji by utilizing plural, successive masks of suitable materials, such as polymeric materials, as disclosed by Smith for an EL electrode forming process because of the expectation of forming complex electrode patterns on EL substrates.

6. Claims 101-104 distinguish over the prior art in that it does not teach nor suggest to use the materials which are biological agents in a biochemical interaction following the applying or allowing step. Claims 101-104 are objected to for depending from a rejected base claim.

Response to Arguments

Applicants’ arguments have been fully considered. The issues are similar to those raised in the interview of 12-15-05. Applicants merely assert again and without unbiased evidence or

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support that the materials of the prior art would not constitute a "biological agent". The Examiner again notes on the record that Applicants NEVER define their intended meaning of *biological agent* nor provide unbiased external evidence to support their allegations, and therefore the Examiner is giving the phrase its broadest reasonable interpretation, namely a substance which has an interaction with a biological organism. Applicants never define the phrase to be organic, to be non-metallic, etc. Instead the support cited is merely exemplification which is not definition. The Examiner agrees that one of ordinary skill, given the specification, would understand what the phrase means, and that would be the interpretation provided by the Examiner. Therefore, Applicants arguments are not persuasive.

The Examiner does note that new dependent claims 101-104 do specify the objective of the biological agent (presumably following the applying or allowing step), and that the incorporation of this subject matter in the appropriate independent claims without otherwise removing subject matter from those claims would be favorably considered.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

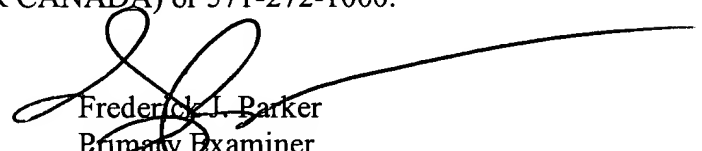
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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick J. Parker whose telephone number is 571/ 272-1426. The examiner can normally be reached on Mon-Thur. 6:15am -3:45pm, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571/272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Frederick J. Parker
Primary Examiner
Art Unit 1762

fjp